Chromium IV by Colorimetric Method
SM 18th /19th Ed. 3500-Cr D **Page 1 of 2**

Facility Name:_____VELAP ID_____

Assessor Name:_____Analyst Name:_____Inspection Date_____

Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
Records Examined: SOP Number/ Revision/ Date _____ Analyst:_____ Sample ID: _____ Date of Sample Preparation:_____ Date of Analysis:_____					
Were sample pH's adjusted to pH 9.3-9.7 using ammonium sulfate buffer solution, cooled to ≤ 6°C, and analyzed within 28 days? *(The preservation temperature does not apply to samples analyzed within 15 minutes of collection.)*	40 CFR 136.3 Table II Footnotes 18, 20				
For dissolved chromium, are samples filtered through a 0.45 µm membrane filter at collection, and is the filtrate acidified with HNO_3 to pH<2?	3500-Cr A.3				
For total chromium, are unfiltered samples acidified at collection with HNO_3 to pH<2?	3500-Cr A.3				
Is redistilled water (distilled water redistilled in all-glass apparatus) used to prepare reagents?	3500-Cr D.3 3500-Cr D.3.k				
Is diphenylcarbazide solution discarded when solution becomes discolored?	3500-Cr D.3.o				
Are standards treated by the same procedure as the samples?	3500-Cr D.4.a				
For total chromium:					
Are samples digested with concentrated H_2SO_4 and concentrated HNO_3 as specified in Section 3030 G? (Add 5 mL HNO_3, evaporate to 15-20 mL, add 5 mL HNO_3 and 10 mL H_2SO_4, evaporate until white fumes just appear, cool, dilute to 50 mL, heat to dissolve slowly soluble salts, and filter if necessary.)	3500-Cr D.4.b				
For both dissolved and total chromium:					
Notes/ Comments:					

Chromium IV by Colorimetric Method
SM 18th /19th Ed. 3500-Cr D **Page 2 of 2**

Facility Name:_____VELAP ID_____

Assessor Name:_____Analyst Name:_____Inspection Date_____

Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
Are several drops of methyl orange indicator added to samples, followed by NH_4OH added until solution just begins to turn yellow, followed by dropwise 1+1 H_2SO_4 until acidic and then 20 drops excess (or 1 mL)?	3500-Cr D.4.d				
After acidification, is sample volume adjusted to about 40 mL, samples brought to boiling, and $KMnO_4$ solution added dropwise to maintain a dark red color while boiling for 2 minutes?	3500-Cr D.4.d				
After boiling for 2 minutes, is 1 mL of NaN_3 solution added, boiling continued for one minute after color has faded, and is 0.25 mL (5 drops) of H_3PO_4 added?	3500-Cr D.4.d				
Are samples adjusted to pH 1 ± 0.3 using 0.2N H_2SO_4 and then diluted to 100 mL?	3500-Cr D.4.e				
Are 2 mL diphenylcarbazide solution added to pH-adjusted diluted samples, and are the samples allowed to stand for 5 to 10 minutes for color development?	3500-Cr D.4.e				
Are samples read at 540 nm, using distilled water as a reference?	3500-Cr D.4.e				
Are sample absorbances corrected by subtracting the absorbance of a blank carried through the method?	3500-Cr D.4.e				

Notes/ Comments: